

PATENT SPECIFICATION

(11)

1 490 381

1 490 381

(21) Application No. 6325/75. (22) Filed 14 Feb. 1975

(44) Complete Specification published 2 Nov. 1977

(51) INT. CL.² A61H 33/06

(52) Index at acceptance
A5R 81 91 97 B29



(54) IMPROVEMENTS IN OR RELATING TO APPARATUS FOR BODY TREATMENTS

(71) I, RENE SIMON, a citizen of the French Republic, residing La Feuilleraie 10, 1 rue Pasteur, 78380 Bougival, France, do hereby declare the invention for which I pray that a patent may be granted to me, and the method by which it is to be performed, to be particularly described in and by the following statement:—

The present invention relates in general to apparatus for treating patients by the intense perspiration method, and has specific reference to an improved apparatus for performing such treatments.

More particularly, the apparatus of this invention is intended for treatments following the preliminary application of a treatment product, for example a sea-weed cream or like composition, to certain parts or the whole of the human body. In this case, the apparatus of the present invention will cause said cream or composition to melt and penetrate into the patient's skin, by causing perspiration which greatly improves the efficiency of any subsequent treatment step or steps.

Apparatus designed for causing the intense perspiration of patients are already known in the art. However, these apparatus are intended solely for this specific purpose and cannot be used for a treatment of the kind referred to hereinabove, in which it is necessary to have the possibility of regulating or modulating the heating means according to the patient's case and also to the particular body areas to be treated.

The apparatus according to the present invention comprises a horizontal table for receiving the patient to be treated, lying down at full length, and a heating system comprising one or more infrared ray emitters, said emitters being carried by a tray substantially parallel to, and overlying, the table, said tray being supported by means permitting the vertical movement thereof

for adjusting the tray in the vertical direction, said tray carrying a curtain shaped to the substantially rectangular peripheral contour of the tray, said contour following approximately the periphery of said tray along its two major sides and one of its minor sides, the other minor side of the curtain being disposed inside of and spaced from the corresponding minor side of the tray, said curtain bounding an enclosure between said tray and said table, and an end portion of said table lying outside said enclosure.

In a particularly advantageous form of embodiment of this invention the table carries a mattress for receiving the patient to be treated, this mattress containing at least one built-in heating element.

According to a preferred feature of this invention, the movable tray incorporates a plurality of infrared ray emitters having separate heating intensity controlling, adjusting or regulating means, said emitters consisting preferably of tubular electrical heating elements, the electric current being supplied to each tubular element through the medium of a continuously-adjustable device.

Other features and advantages of this invention will appear as the following description proceeds with reference to the accompanying drawings illustrating diagrammatically by way of example a typical form of embodiment of the invention. In the drawings:

Figure 1 illustrates in perspective view a general layout of the apparatus of this invention;

Figure 2 is an end and elevational view as seen in the direction of the arrows along line II-II of Figure 1;

Figure 3 illustrates in plane view from beneath the tray of the apparatus shown in Figure 1;

Figure 4 is a longitudinal section taken

along the line IV-IV of Figure 5 through the mattress; and

Figure 5 is a plane view of a longitudinal section taken along the line V-V of Figure 4, that is, through a horizontal plane.

Referring to the drawings, it will be seen that the table 1 of the apparatus according to this invention comprises three identical chests 2 disposed side by side and fastened to each other by means of bolts (not shown) extending through adjacent end walls of said chests 2 to constitute a rigid assembly. The lower portion of each chest 2 comprises one or more drawers and the top of the chest assembly constitutes a flat board made of the assembled three upper boards of said chests 2. On the table thus obtained a mattress 4 is disposed, as shown. The surface area of this table 1 corresponds to the mattress size, that is, a length of 1.90 meters a width of 0.70 m, the mattress having a thickness of 0.15 m. The central chest 2 disposed intermediate the end of chests 2 of table 1 has secured to its rear surface by means of bolts 5 a vertical post 6 carrying at its upper end a horizontal arm 7 provided at its end distant from the post with a self-winding balancing device 8 concealed by a spherical ornamental housing 9. The vertical post 6 consists of a metal section along which a sleeve 10 rigid with a horizontal tray 11 of the apparatus slides. The tray 11 is supported by the rope 12 depending from the self-winding balancing device 8 and attached to a lug 13 rigid with the top of said tray 11. Under these conditions, the tray 11 can move by translation in relation to the vertical post 6 and may be locked in the desired adjustment position by means of a locking bearing block 14 provided with a screw rod 15, said bearing block 14 bearing against the post 6 while the screw rod 15 coacts with a nut rigid with the tray 11 and extends through the entire width of said tray so that a handle 16 for rotating said screw rod 15 lies in the central portion of the longitudinal side member of the tray which is opposite said post 6 and sleeve 10. The vertical post 6 carries a pair of stops 17 for limiting the downward movement of sleeve 10 and preventing the tray 11 from approaching unduly the mattress 4. On its lower surface the tray 11 carries a curtain rod 18 shaped to the substantially rectangular peripheral contour with rounded corners of the tray, said contour following approximately the periphery of said tray 11 along its two major sides and one of its minor sides; the other minor side of said contour, as far as the rod is concerned, is disposed on the inside of, and spaced from the corresponding minor side of the tray by a distance of

about 0.35 m and parallel thereto. Suspended from said curtain rod 18 is a curtain 19 forming between the tray 11 and mattress 4 an enclosure for receiving the whole body of the patient to be treated, except for the head which lies outside this enclosure beneath the tray area not surrounded by said curtain 19.

On its lower surface the tray 11 carries four infrared heating tubes 20 connected to a source of electric current and having each a 400-Watt power rating. Of course, this rating is given by way of illustration and other current power values may be used according to requirements. Each infrared heating tube 20 is heated through a continuously-adjustable device of known type, for example the device known under the Trade Mark "Triak" and comprising a control knob 21 registering with a circular scale disposed along the lateral longitudinal member of tray 11 which is opposite the vertical post 6. In addition, this longitudinal member carries a main switch 22 controlling the supply of electric current to all the appliances mounted on this tray, and a fan switch 23 controlling the operation of a fan 24a adapted to blow air towards the mattress 4. This fan 24a is located in the area of tray 11 which lies in a plane above the plane containing said curtain rod 18. Each infrared tubular heating element 20 extends centrally of a semi-cylindrical reflector 24. Said heating tubes 20 are parallel to the minor sides of tray 11 and spaced 0.20 m and 0.55 m respectively from the central transverse line of said rectangular tray 11. Between the pair of reflectors 24 adjacent to said central line a general-purpose lighting appliance 25 is disposed, and between the outermost reflectors and innermost reflectors (where no lighting appliance is provided) a pair of ultraviolet ray tubes 26 are fitted.

The mattress 4 comprises an external sheathing 27 made from suitable plastics material such as the well-known product sold under the registered Trade Mark "Skai". This sheathing encloses a plurality of superposed layers of expanded plastics foam. The lowermost layer 28 consists preferably of relatively soft foam material and above this layer 28 is another layer 29 of somewhat stiffer plastics foam material. Between these layers 28 and 29 a vibrating frame 30 consisting of a substantially rectangular metal structure reinforced by cross members is provided. The length of this metal frame is about 1.3 m and its width about 0.40 m. Disposed in the central area of this vibrating frame 30 and parallel to one of the small sides thereof is a cylinder 31 within which a rotary electric motor 32 is mounted. The output shaft of this motor

32 is solid with an eccentric or inertia block 33 off-set by a throw of about 30 mm with respect to the axis of said shaft 32. The inertia block 33 weighs 25 g. The rotational velocity of motor 32 can be varied by modifying its electric current supply by means of a control knob 33a on a control panel 34 carried by the outer sheathing or housing 27 along a side member corresponding to the thickness of said mattress 4. The control panel 34 further comprises a knob 35 for controlling the continuous variation of the current energizing an electric blanket 36 disposed on the layer 29 of said mattress 4. The electric blanket 36 is enclosed in a heat-resistant plastic wrapper (not shown). An 875-Watt power-rating for the electric blanket 36 is sufficient for the purpose. Above this electric blanket 36 is a layer 37 of soft plastics foam material covered in turn by the sheet of the outer sheathing 27 on which the patient to be treated lies during the treatment. The electric blanket 36 consists preferably of a conducting wire-mesh of which the structure may comprise for instance fiberglass 'yarn' elements coated with a carbon product in order to impart a suitable electric conductivity thereto.

When it is desired to administer a treatment by means of the apparatus according to this invention as described hereinabove the patient is invited to lay down at full length on the mattress 4 and the particular areas of his or her body which are to be treated are coated with suitable treatment products, such as sea-weed jelly or cream. Then the patient's body is wrapped in a thin plastic sheet to prevent any undesired soiling of the outer wrapper or sheathing 27 of the mattress 4, and the height of tray 11 is adjusted as a function of the space required to accommodate and permit treatment of the patient above said mattress 4.

Then the electric blanket within the mattress 4 is turned on by means of control knob 35, and likewise the infrared ray tubular elements 20 are switched on by properly regulating the four control knobs 21. The curtain 19 is subsequently closed so that the patient's body lies within a closed space, and the fan 24a is turned on so that the patient's head emerging from said closed space be refreshed by directing fresh air thereagainst. Then the electric motor 32 is energized by actuating its control knob 33a in order to create vibration of a strength corresponding to the best possible degree of comfort and relaxation for the patient undergoing the treatment. Exhaustive tests proved that the results obtained with the treatment applied by means of this apparatus were greatly enhanced by this vibratory action.

It will readily occur to those conversant

with the art that the above-described mode of operation of the apparatus of this invention may be modified to suit various requirements, and that the sequence of steps given herein is not compulsory. Thus, if desired, the mattress 4 may be heated before requesting the patient to lie down on it, to avoid any unpleasant feeling of cold to the patient when he or she stretches him- or herself out thereon.

During the treatment, the heating action may be adjusted by moving the tray vertically, and by controlling the various elements of the heating system. It may be noted that movement of the tray 11 in the vertical direction is also advantageous in that the tray can be moved upwardly away from the table 1 to leave adequate clearance for the person to be treated with the apparatus to step in or out from the apparatus. Besides, this arrangement greatly facilitates massage treatments or any other body treatments to be administered on said table before or after lowering the tray 11 and turning on the heating system or systems.

Although a specific form of embodiment of this invention has been described hereinabove with reference to the attached drawings, it will readily occur to those skilled in the art that various modifications and changes may be brought thereto without departing from the scope of the invention as set forth in the appended claims.

WHAT I CLAIM IS:—

1. Apparatus for treating patients by the intense perspiration method, possibly subsequent to the application of a treatment product to parts of the patient's body, which comprises a horizontal table for receiving the patient; and a heating system comprising one or more infrared ray emitters, said emitters being carried by a tray substantially parallel to, and overlying, said table, said tray being supported by means permitting the vertical movement thereof for adjusting the tray in the vertical direction, said tray carrying a curtain shaped to the substantially rectangular peripheral contour of the tray, said contour following approximately the periphery of said tray along its two major sides and one of its minor sides, the other minor side of the curtain being disposed inside of and spaced from the corresponding minor side of the tray, said curtain bounding an enclosure between said tray and said table, and an end portion of said table lying outside said enclosure.

2. Apparatus, according to Claim 1, in which said table carries a mattress for receiving the patient to be treated, said mattress incorporating at least one built-in heating element.

3. Apparatus, according to either of Claim 1 and 2, in which the infrared ray emitters are provided with separate means for regulating or controlling the heating rates thereof.

4. Apparatus, according to Claim 3, in which said infrared ray emitters consist of electrical tubular heating elements each supplied with electric current through a continuously-adjustable control device.

5. Apparatus, according to Claim 2, or either of Claims 3 and 4 as appendent to Claim 2, in which the mattress covering said table consists of a plurality of superposed layers of soft cellular material, said built-in heating element being substantially flat and inserted between two successive layers in the upper portion of said mattress.

6. Apparatus, according to Claim 2, or any one of Claims 3 to 5 as appendent to Claim 2, in which a rigid vibrating frame is disposed between two adjacent layers of said mattress and lies entirely within the area bounded on said mattress by said curtain suspended from the overlying tray.

7. Apparatus, according to Claim 6, in which the rigid frame is vibrated by means of an electric motor carrying an eccentric inertia block on its output shaft.

8. Apparatus, according to any of the preceding claims, in which said tray is moved vertically in relation to said table

by hoisting means arranged on one side of the apparatus, in the vicinity of the centre of one of the major sides of said table, said hoisting means being rigid with said table.

9. Apparatus, according to Claim 8, in which said tray is supported by the rope of a self-winding balancing device, said tray sliding along a vertical post having at its upper end a horizontal arm overlying said table and supporting said balancing device at its end distant from the vertical post, the vertical movement of said tray in relation to said post being limited by at least one fixed stop, the position of said tray with respect to said vertical post being set by suitable locking means associated therewith.

10. Apparatus, according to Claim 8, in which the position of said tray with respect to said table is held by means of a screw and nut device wherein the nut is rigid with said tray and the screw extends vertically on one side of said tray, in the central area thereof.

11. Apparatus, substantially as described hereinabove with reference to the accompanying drawing.

For the Applicant:
CHATWIN & COMPANY,
Chartered Patent Agents,
253 Gray's Inn Road,
London, WC1X 8QX.

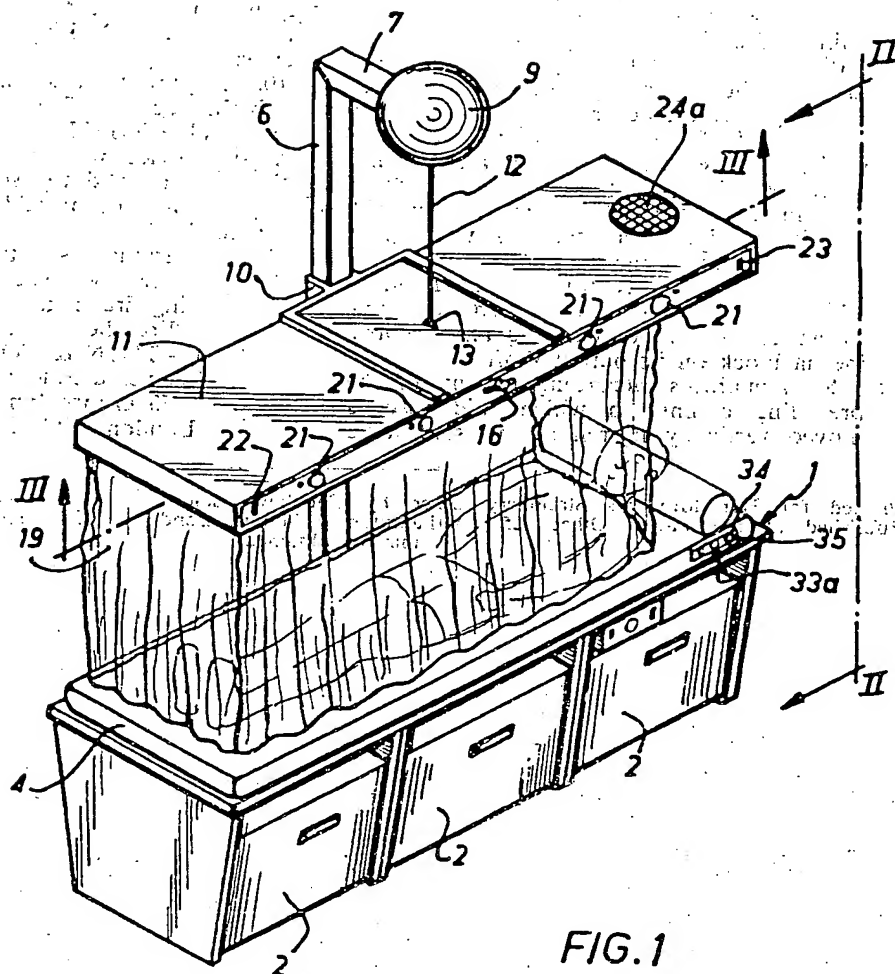
Printed for Her Majesty's Stationery Office by The Tweeddale Press Ltd., Berwick-upon-Tweed, 1977.
Published at the Patent Office, 25 Southampton Buildings, London, WC2A 1AY, from which copies may be obtained.

1490381

3 SHEETS

COMPLETE SPECIFICATION

This drawing is a reproduction of
the Original on a reduced scale.
SHEET 1



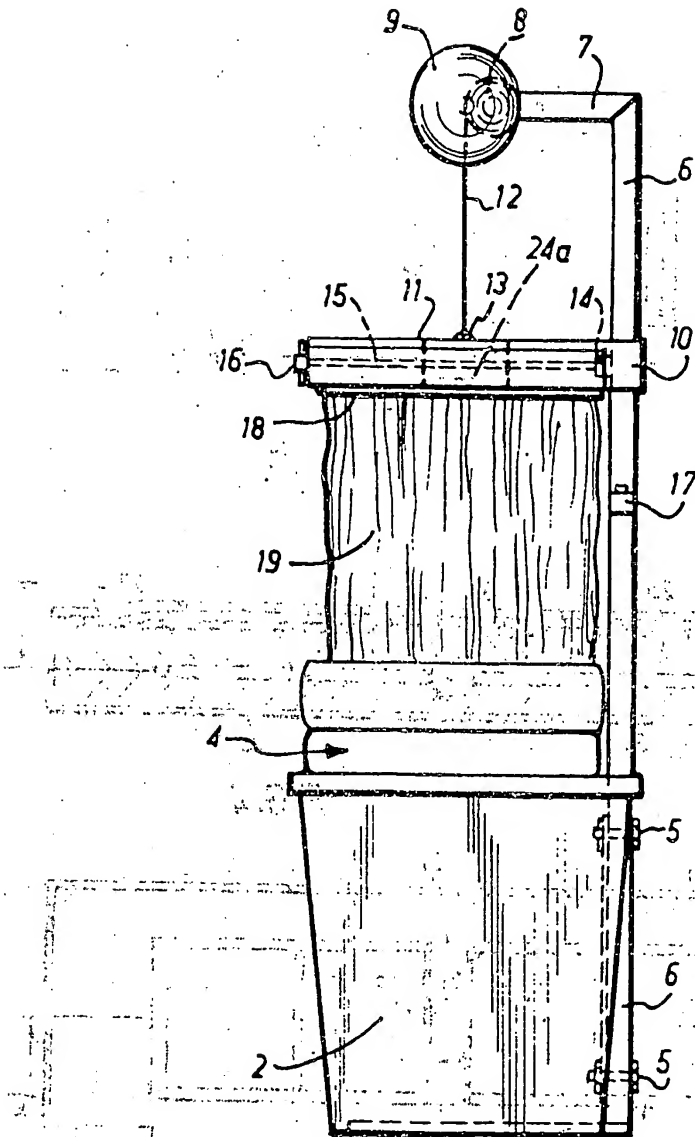


FIG. 2

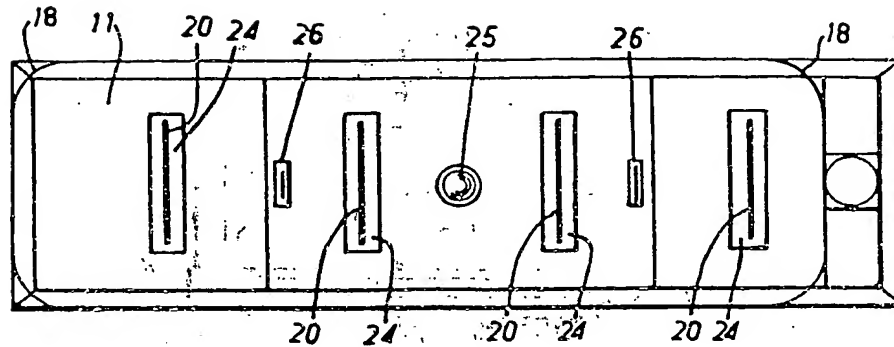


FIG. 3

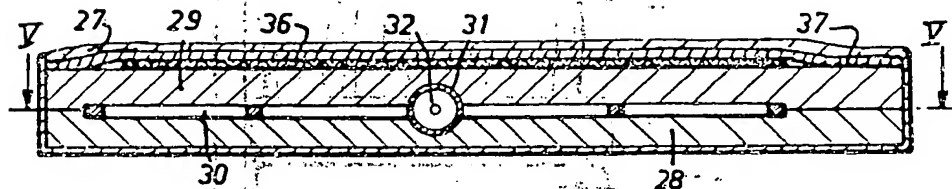


FIG. 4

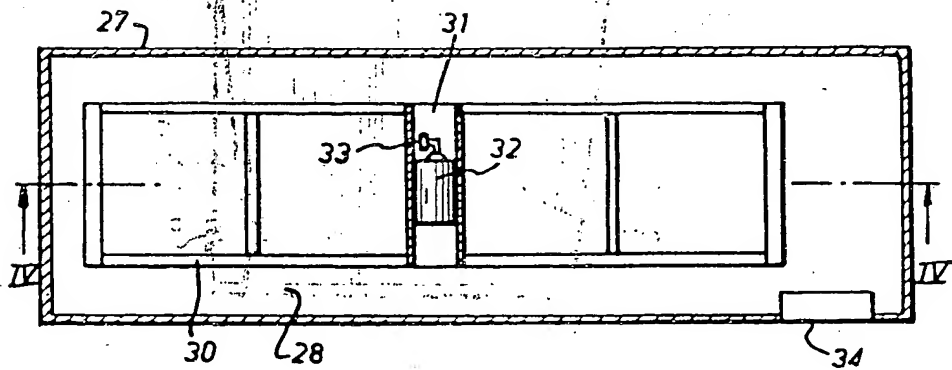


FIG. 5

THIS PAGE BLANK (USPTO)

**This Page is Inserted by IFW Indexing and Scanning
Operations and is not part of the Official Record**

BEST AVAILABLE IMAGES

Defective images within this document are accurate representations of the original documents submitted by the applicant.

Defects in the images include but are not limited to the items checked:

- ☐ **BLACK BORDERS**
- ☐ **IMAGE CUT OFF AT TOP, BOTTOM OR SIDES**
- ☐ **FADED TEXT OR DRAWING**
- ☐ **BLURRED OR ILLEGIBLE TEXT OR DRAWING**
- ☐ **SKEWED/SLANTED IMAGES**
- ☐ **COLOR OR BLACK AND WHITE PHOTOGRAPHS**
- ☐ **GRAY SCALE DOCUMENTS**
- ☐ **LINES OR MARKS ON ORIGINAL DOCUMENT**
- ☒ **REFERENCE(S) OR EXHIBIT(S) SUBMITTED ARE POOR QUALITY**
- ☐ **OTHER:** _____

IMAGES ARE BEST AVAILABLE COPY.

As rescanning these documents will not correct the image problems checked, please do not report these problems to the IFW Image Problem Mailbox.

THIS PAGE BLANK (USPTO)